DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD
2461 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22331

27 MAR 1987

DDESB-KT

SUBJECT: Improved Loading Configurations for 8-Inch Artillery

Commander
US Army Safety Center
Ft. Rucker, AL 36362-5363

1. References:

a. PESC-PR (SLCBR-TB-E/22 Jan 87) 2nd End, dated 2 Mar 87, Subject: 8-Inch Artillery Ammunition.

b. SLCBR-TB-E letter dated 28 Jan 87, Subject: 8-Inch Artillery Ammunition

2. Traditionally, artillery ammunition is stored in Ammunition Holding Areas (AHAs) aboard rolling stock for quick response to combat threats. Since these areas are located within cantonments, safety distances have not been met. The Quickload Program was established to find a safer way to configure ammunition aboard vehicles. The enclosed data package for configuring Projectile, 8 IN HE M106 aboard vehicles such as HEMTT's, HEMAT's, 12 ton semi-trailers, and 5 ton trucks was developed by the Quickload Test Program.

3. Based upon the data provided in reference 1b for the trailer test (AHA0608A6), and the small scale tests designated USA, the enclosed storage configurations are recommended for use in forward combat-ready truck parks in theaters of operation. These storage configurations are placed aboard vehicles separated in the parks by a distance of 15 feet.

4. This type of loading will prevent simultaneous detonation of the entire contents of a truck park due to accident or combat action. The amount of ammunition involved in a single event will be that amount in one contiguous stack aboard a vehicle including the propellant. This is a fraction of the total Net Explosives Weight (NEW) with subsequent reduction of damage and casualties.

5. The distance required for minimum protection from fragmentation is not reduced by this technique, but safety is improved considerably by the reduction of fragment densities at any given distance.

6. In summary, compliance with all safety requirements is not provided by these methods of storing ammunition, but safety and combat survivability are significantly improved. The ultimate aim of this program is to find solutions for handling and storage of ammunition in forward areas which meet safety requirements. While these tests are ongoing, it is recommended that this system be employed.

THOMAS F. HALL, JR.
Colonel, USA
Chairman